

LA-UR-21-27753

Approved for public release; distribution is unlimited.

Title: Eastern Pacific Cloud Aerosol Precipitation Experiment (EPCAPE)
Kickoff Meeting

Author(s): Powers, Heath Hamilton

Intended for: Web

Issued: 2021-08-04

Disclaimer:

Los Alamos National Laboratory, an affirmative action/equal opportunity employer, is operated by Triad National Security, LLC for the National Nuclear Security Administration of U.S. Department of Energy under contract 89233218CNA000001. By approving this article, the publisher recognizes that the U.S. Government retains nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or to allow others to do so, for U.S. Government purposes. Los Alamos National Laboratory requests that the publisher identify this article as work performed under the auspices of the U.S. Department of Energy. Los Alamos National Laboratory strongly supports academic freedom and a researcher's right to publish; as an institution, however, the Laboratory does not endorse the viewpoint of a publication or guarantee its technical correctness.

Eastern Pacific Cloud Aerosol Precipitation Experiment (EPCAPE)

Kickoff Meeting

AGENDA

- Introduction to ARM Staff (Powers)
- Introduction to PI Team
- EPCAPE Science Overview (Russell)
- ARM Operations Overview (Powers)
- ARM Communications (Jundt)
- Information for PI Team (Powers)
- Questions and Discussion

ARM People



DOE Program Manager: Sally McFarlane (DOE HQ)

ARM Technical Director: Jim Mather (PNNL)

Assoc. Director of Operations: Nicki Hickmon (ANL)

Engineering & Science Products: Jennifer Comstock (PNNL)

Data and Computing Lead: Giri Prakash (ORNL)

Instrument Operations: Adam Theisen (ANL)

Communications and Media: Rolanda Jundt (PNNL)

AMF2 Operations Team at LANL

Lead: Heath Powers

Project Manager: David Chu

Deputy PM: Nathan Wales

Instrument Coordinator: Juarez Viegas

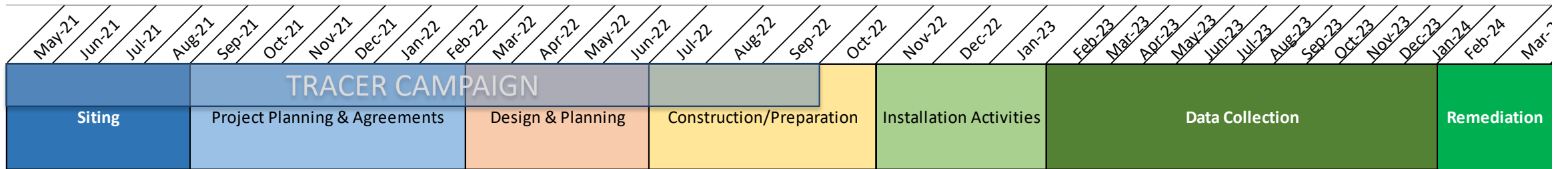
AGENDA

- Introduction to ARM Staff (Powers)
- Introduction to PI Team
- **EPCAPE Science Overview (Russell)**
- ARM Operations Overview (Powers)
- ARM Communications (Jundt)
- Information for PI Team (Powers)
- Questions and Discussion

AGENDA

- Introduction to ARM Staff (Powers)
- Introduction to PI Team
- EPCAPE Science Overview (Russell)
- **ARM Operations Overview (Powers)**
- ARM Communications (Jundt)
- Information for PI Team (Powers)
- Questions and Discussion

EPCAPE Timeline



- Data collection: 1 February 2023 – 31 January 2024
- Installation: mid-November 2022
- Preparation: next summer 2022

Where?

ARM

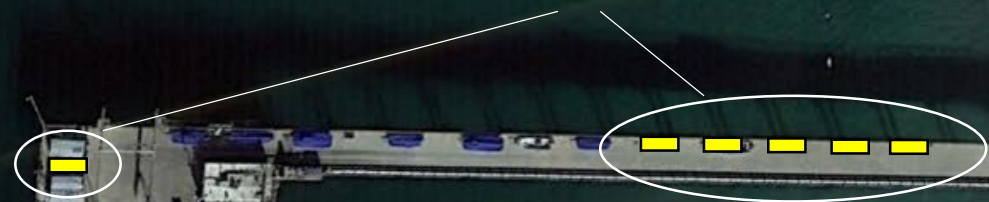


www.freeworldmaps.net

6 Instrument Shelters on the Pier:

5 along the N edge of the pier

1 at the end of the pier (sensitive air chemistry measurements)



Ellen Browning Scripps Memorial Pier

Aerosols /
Chemistry

Pump House
Roof Platform

Instruments:
AERI, RWP +
(HSRL TBD)

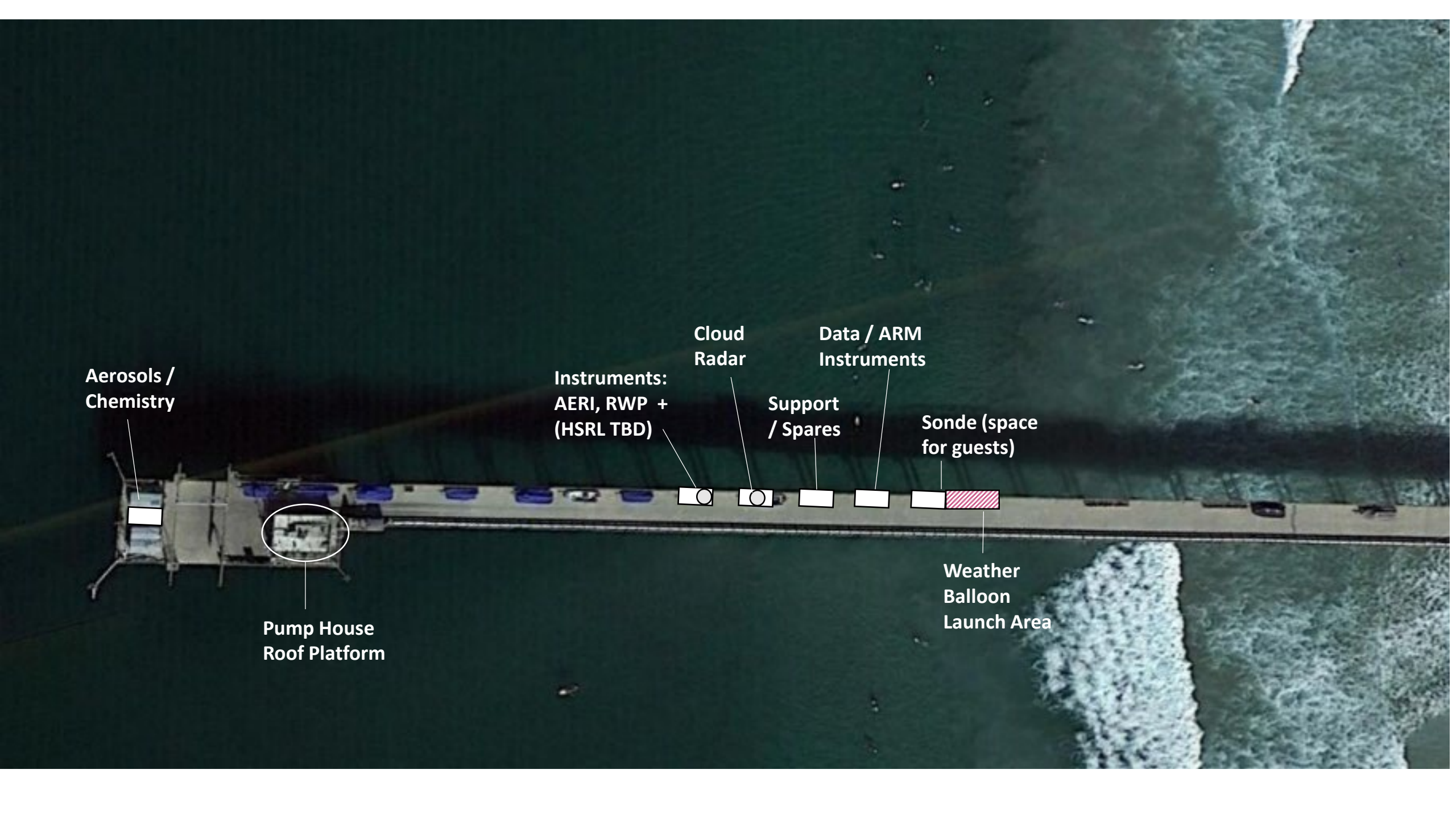
Cloud
Radar

Support
/ Spares

Data / ARM
Instruments

Sonde (space
for guests)

Weather
Balloon
Launch Area



AOS Container Location



Scripps Pier

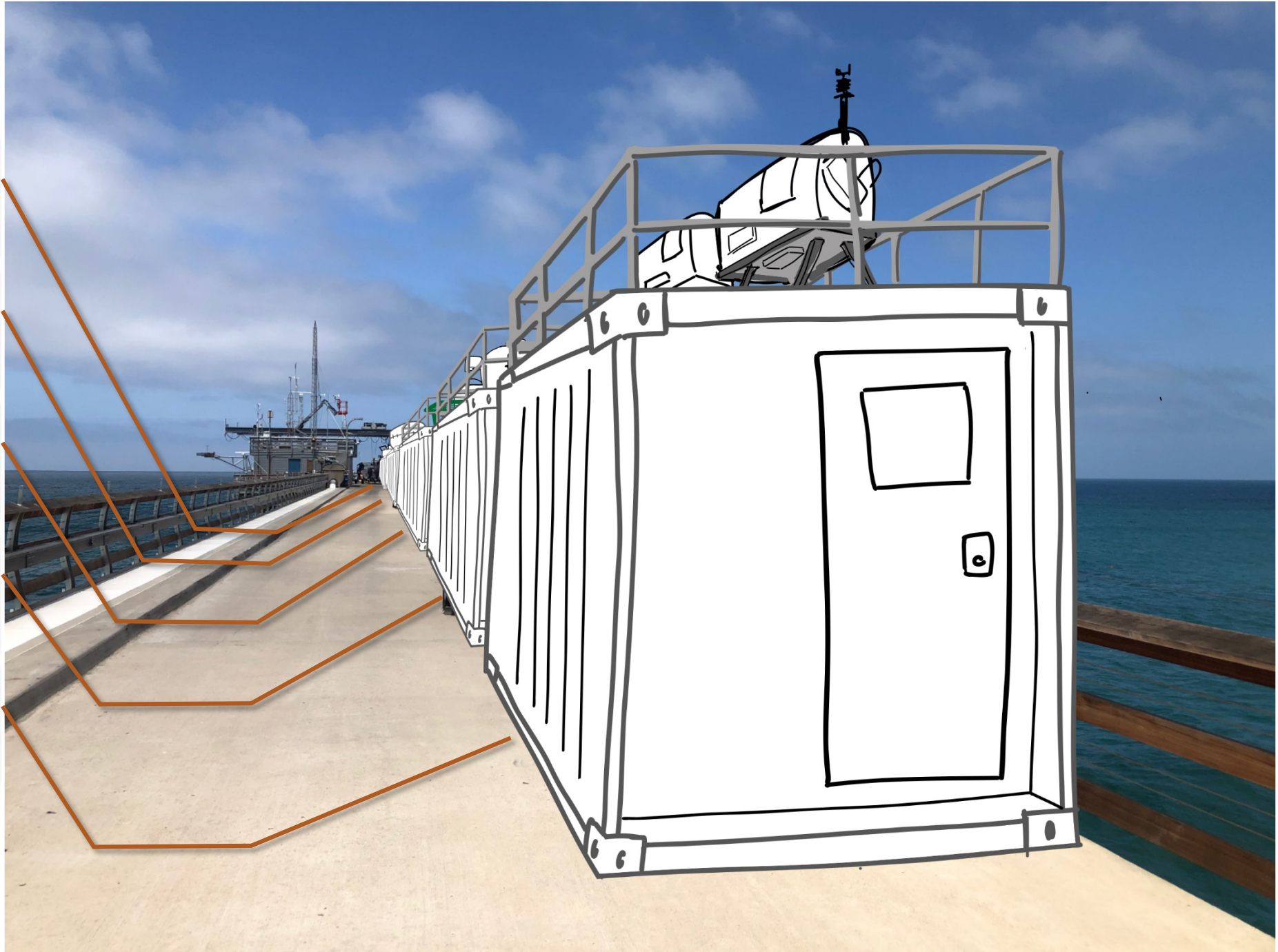
AERI, AHSRL (guest),
BSRWP

Ka-Band ARM Zenith
Radar

2DVD, 2NFOV,
CSPHOT, TSI

MPL, Doppler Lidar,
CEIL, SKYRAD

BBSS, MWR3C,
MWR2C, MWRHF



Pump House with Roof Platform



Scripps Pier: Pumphouse Roof



Laser Disdrometer

Optical Rain Gauge

Present Weather
Detector

Down-welling Infrared
Thermometer

Tipping Bucket Rain
Gauge

Weighing Bucket Rain
Gauge

Pier boom for over-water measurements



Pier Instrument Distributions

Pier Shelters: 20' Shipping Containers

Aerosol /Chemistry (AOS)

SMPS, CCN, UHSAS, APS, SP2, HTDMA, ACSM, Nephs, CPCs, Aethelometer, PSAP, O3, SO2, CO

10kVA, 240-480V
14,500lbs

AERI / RWP container

AERI, AHSRL (Univ. Of Wisc.), BSRWP

6kVA, 240-480V
12,500lbs

Cloud Radar (KAZR)

Ka-band Zenith Cloud Radar

6kVA, 240-480V
10,000lbs

Supplies & Spares (GP)

TSI, 2DVD, CSPHOT

3kVA, 240-480V
10,000lbs

Data (OPS)

MPL, Doppler Lidar, CEIL, SKYRAD

4kVA, 240-480V
10,000lbs

Sonde (SAS)

BBSS, MWR3C, MWR2C, MWRHF

4kVA, 240-480V
10,000lbs

Pier Pump House Roof

PWD, ORG, TBRG, WBPluvios, LDIS, SKYIRT

Pier Boom

GNDRAD, GNDIRT, ECOR/SEBS

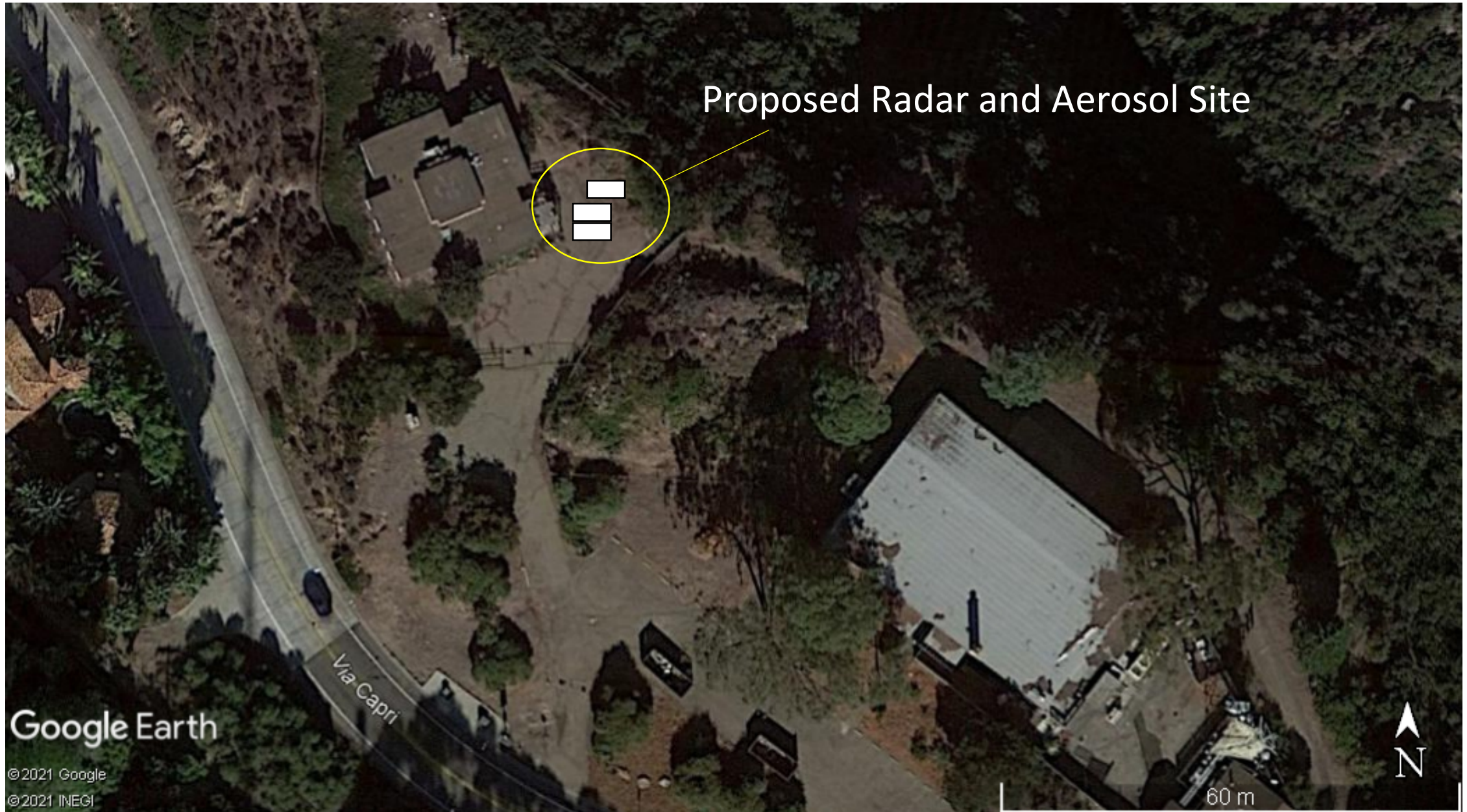
Where?

ARM



ENERGY

Mt. Soledad Scripps Site



Mt. Soledad: West Scripps Building

SACR Radar

SACR Container

ARM Guest Shelter

Scripps Aerosol
& Trace Gas Shelter



AGENDA

- Introduction to ARM Staff (Powers)
- Introduction to PI Team
- EPCAPE Science Overview (Russell)
- ARM Operations Overview (Powers)
- **ARM Communications (Jundt)**
- Information for PI Team (Powers)
- Questions and Discussion

AGENDA

- Introduction to ARM Staff (Powers)
- Introduction to PI Team
- EPCAPE Science Overview (Russell)
- ARM Operations Overview (Powers)
- ARM Communications (Jundt)
- **Information for PI Team (Powers)**
- Questions and Discussion

Information for the PI Team

- ▶ **ARM/ASR:** Sister programs but different functions: ARM is a national user facility and provides measurements, but not science funding. ASR funds science. Feel free to reach out to the ASR program managers Shaima Nasiri and Jeff Stehr
- ▶ **Instruments:** ARM provides a 'baseline' set of instruments with the AMF along with some 'special request' assets such as a scanning radar. Any additional requests or changes to the instrument request can be directed to Adam Theisen and Heath Powers.
 - The current list of instruments is here: <https://docs.google.com/spreadsheets/d/17A4qVeu5j5rldmL9zFK0HiX9twz90O25ySabjlkz0QI/edit#gid=0>
- ▶ **Additional ARM resource requests:** Any ARM asset not clearly defined in the instrument list or award letter that is requested by the PI should be evaluated through ARM's IMB team. You can contact Jim Mather or Sally McFarlane to discuss significant requests, or the operations team (Heath) can get you to the right person.
- ▶ **Additional Facility Requests:** If the PI team is planning to make requests for separate ARM facilities (such as AAF or TBS), please clearly note these in the proposal and science plan. Otherwise, make the request through the ARM IMB (Jim Mather and Sally McFarlane).
 - **Tethered Balloon System (TBS):** The ARM TBS is treated much like a facility (such as the AMF), and typically will have a call for proposals for its use. Planned requests should be made in the proposal and science plan, or later (but as early as possible) through the ARM IMB.
- ▶ **Collaborations:** Collaborations with other institutions or agencies are welcome and encouraged. Please discuss any potential collaborations with Sally and Jim.

Information for the PI Team

- ▶ **Intensive Operations Periods (IOPs):** Targeted IOP periods are ideally identified in the proposal or science plan. Otherwise, these should be coordinated by the PI and communicated to the IMB. Any 'action' that ARM needs to take (such as hosting guest instruments) will require a small field campaign request.
 - If IOPs request changes to how ARM instruments are operated, please clearly identify this in the field campaign request under 'ARM Resources Needed'
- ▶ **Small Campaign Requests:** submit requests for guest instruments at ARM sites through the ARM Field Campaign (AFC) request portal here: <https://www.arm.gov/research/campaign-proposal>
 - Since space is limited for EPCAPE, we'll want to discuss how to coordinate guest instrument requests. We'll work with the PI to devise a way to have the guest instrument requests grouped together so we can evaluate them as a package in an effort to keep the limited space and resources in mind.
- ▶ **Radiosonde Launches:** Any changes to the planned 4/daily radiosondes should be requested through site operations to be vetted through the IMB.
- ▶ **VAPs:** Work with Jennifer Comstock to develop the set of Value Added Products for the campaign.
- ▶ **Translator:** An ARM translator will be assigned to help oversee the development of VAPs.
- ▶ **Campaign Dashboard:** This is a tool that is currently in development that is meant to quickly convey information about the campaign to stakeholders. Nicki Hickmon is the point-person for Dashboard requests.

AGENDA

- Introduction to ARM Staff (Powers)
- Introduction to PI Team
- EPCAPE Science Overview (Russell)
- ARM Operations Overview (Powers)
- ARM Communications (Jundt)
- Information for PI Team (Powers)
- **Questions and Discussion**